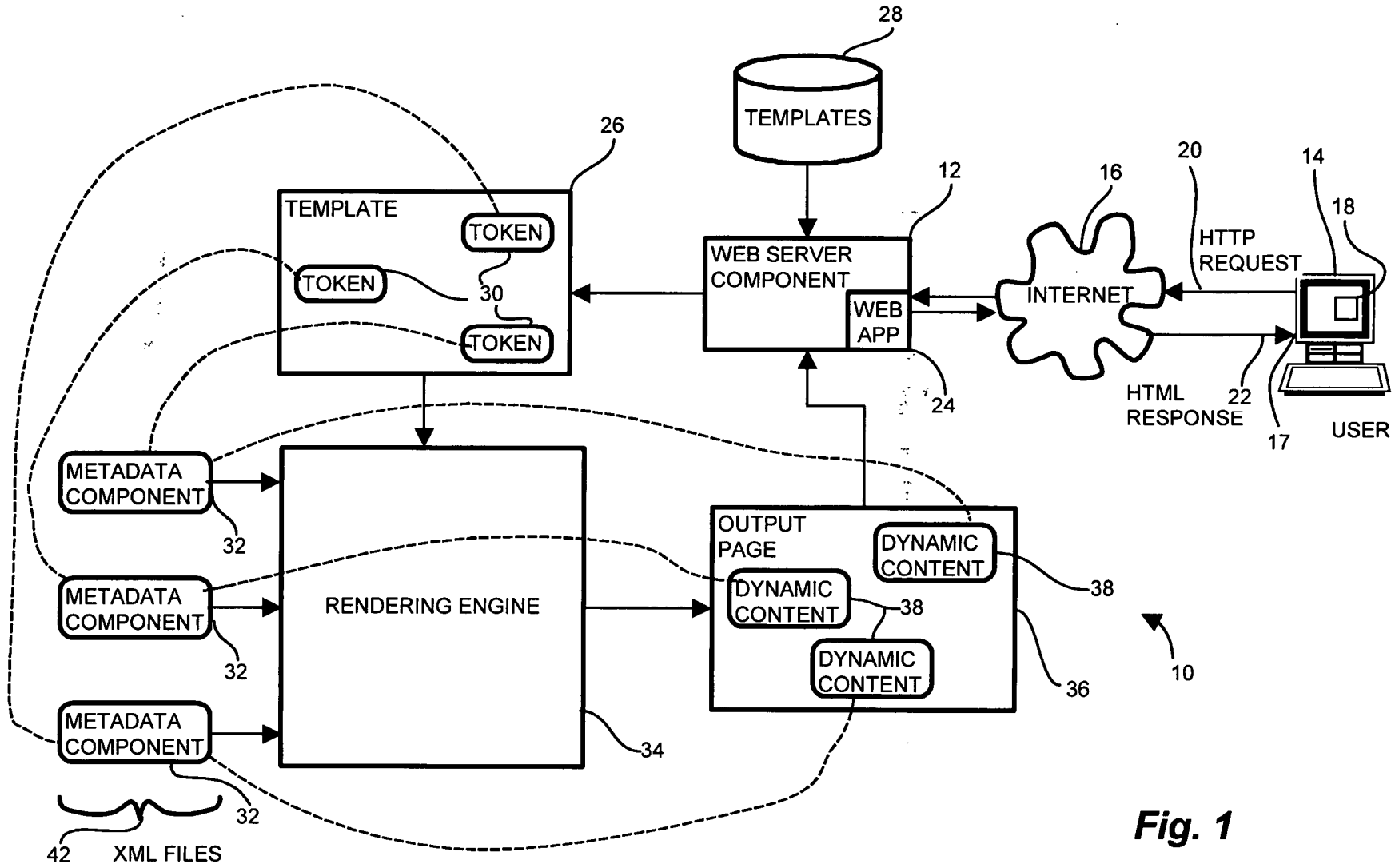
28
TEMPLATES
26
TEMPLATE
TOKEN
TOKEN
30
TOKEN
12
WEB SERVER COMPONENT
WEB APP
24
16
INTERNET
20
HTTP REQUEST
14
18
HTML RESPONSE
22
17
USER
METADATA COMPONENT
32
METADATA COMPONENT
32
METADATA COMPONENT
32
RENDERING ENGINE
34
OUTPUT PAGE
DYNAMIC CONTENT
38
DYNAMIC CONTENT
38
DYNAMIC CONTENT
36
10
42
XML FILES

Fig. 1

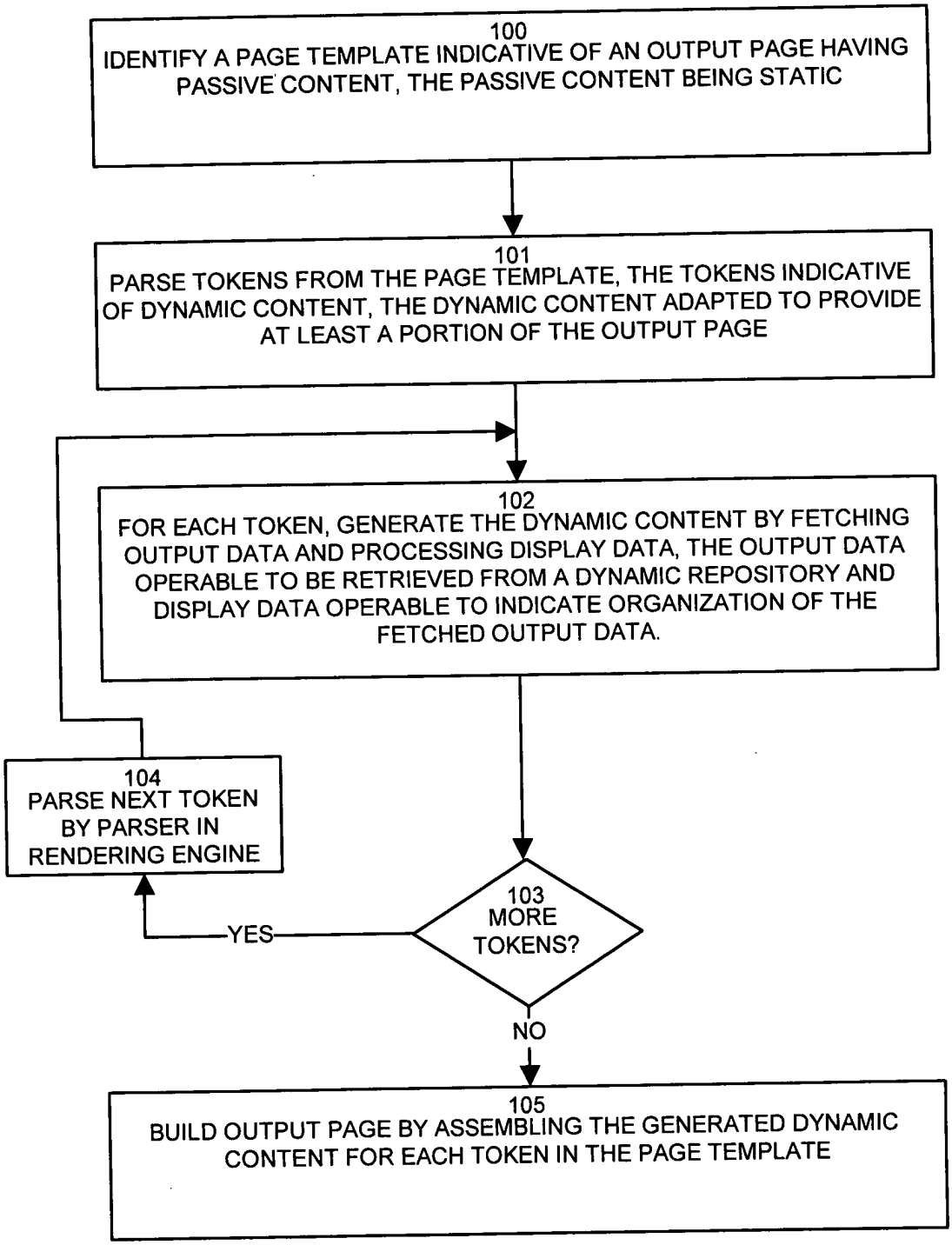
100
IDENTIFY A PAGE TEMPLATE INDICATIVE OF AN OUTPUT PAGE HAVING PASSIVE CONTENT, THE PASSIVE CONTENT BEING STATIC
101
PARSE TOKENS FROM THE PAGE TEMPLATE, THE TOKENS INDICATIVE OF DYNAMIC CONTENT, THE DYNAMIC CONTENT ADAPTED TO PROVIDE AT LEAST A PORTION OF THE OUTPUT PAGE
102
FOR EACH TOKEN, GENERATE THE DYNAMIC CONTENT BY FETCHING OUTPUT DATA AND PROCESSING DISPLAY DATA, THE OUTPUT DATA OPERABLE TO BE RETRIEVED FROM A DYNAMIC REPOSITORY AND DISPLAY DATA OPERABLE TO INDICATE ORGANIZATION OF THE FETCHED OUTPUT DATA.
103
MORE TOKENS?
YES
104
PARSE NEXT TOKEN BY PARSER IN RENDERING ENGINE
NO
105
BUILD OUTPUT PAGE BY ASSEMBLING THE GENERATED DYNAMIC CONTENT FOR EACH TOKEN IN THE PAGE TEMPLATE

Fig. 2

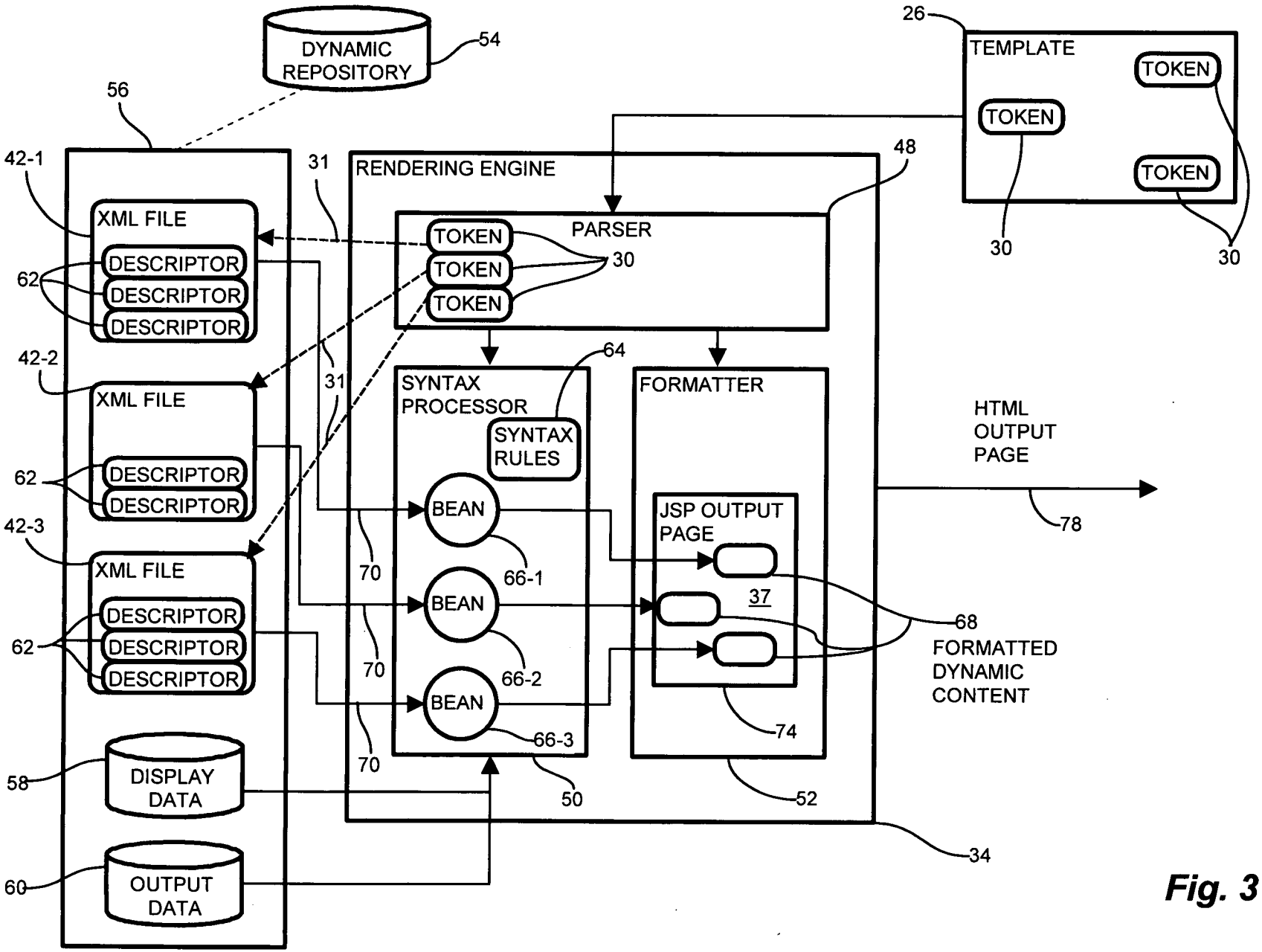
DYNAMIC REPOSITORY
54
56
26
TEMPLATE
TOKEN
TOKEN
TOKEN
30
30
42-1
XML FILE
DESCRIPTOR
DESCRIPTOR
DESCRIPTOR
62
31
RENDERING ENGINE
48
PARSER
TOKEN
TOKEN
TOKEN
30
42-2
XML FILE
DESCRIPTOR
DESCRIPTOR
62
31
64
SYNTAX PROCESSOR
SYNTAX RULES
FORMATTER
HTML OUTPUT PAGE
42-3
XML FILE
DESCRIPTOR
DESCRIPTOR
DESCRIPTOR
62
BEAN
66-1
BEAN
66-2
BEAN
66-3
70
70
70
JSP OUTPUT PAGE
37
68
FORMATTED DYNAMIC CONTENT
74
78
58
DISPLAY DATA
60
OUTPUT DATA
50
52
34

Fig. 3

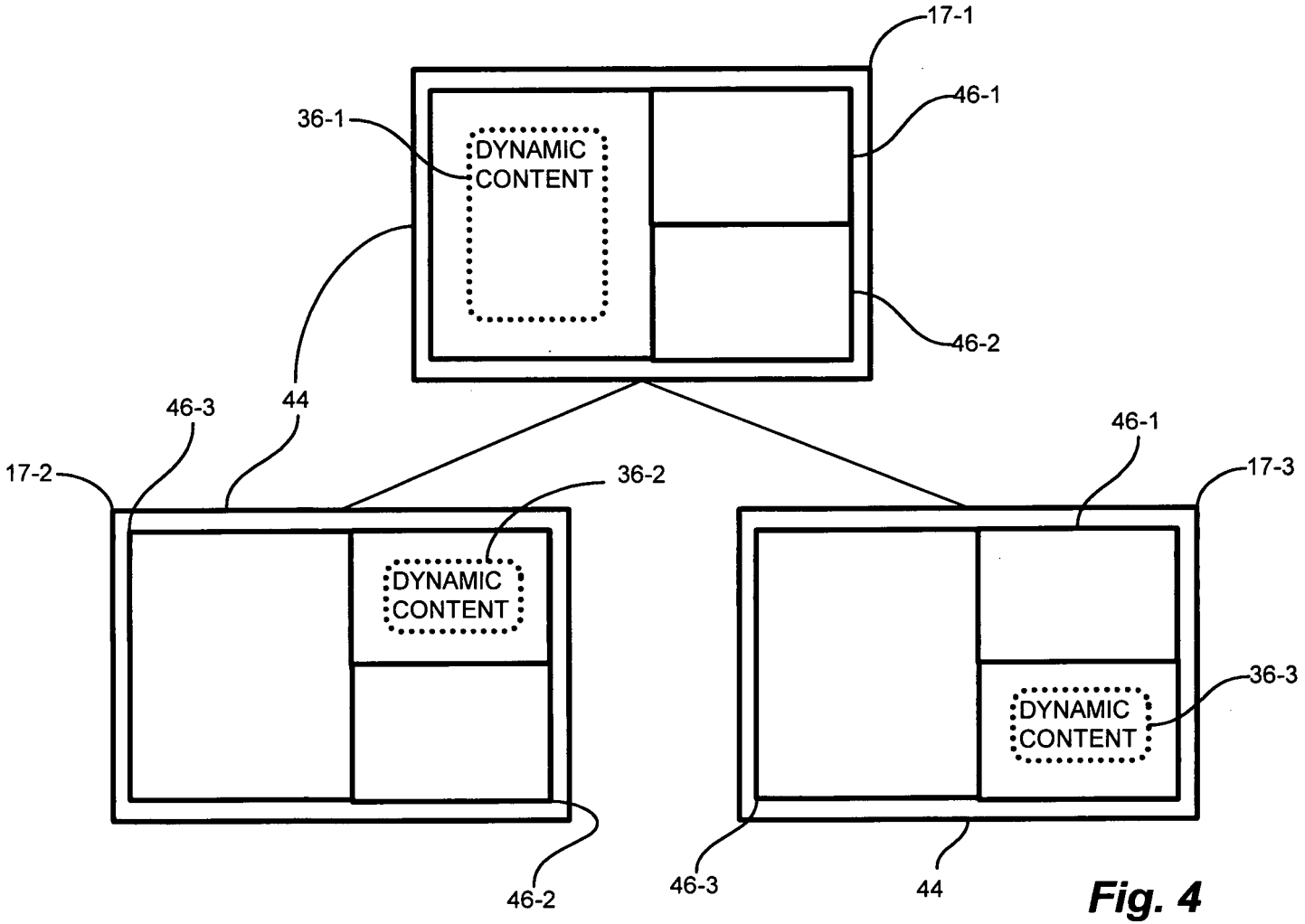
17-1
46-1
36-1
DYNAMIC CONTENT
46-2
44
46-3
17-2
36-2
DYNAMIC CONTENT
46-2
46-1
17-3
36-3
DYNAMIC CONTENT
46-3
44

Fig. 4

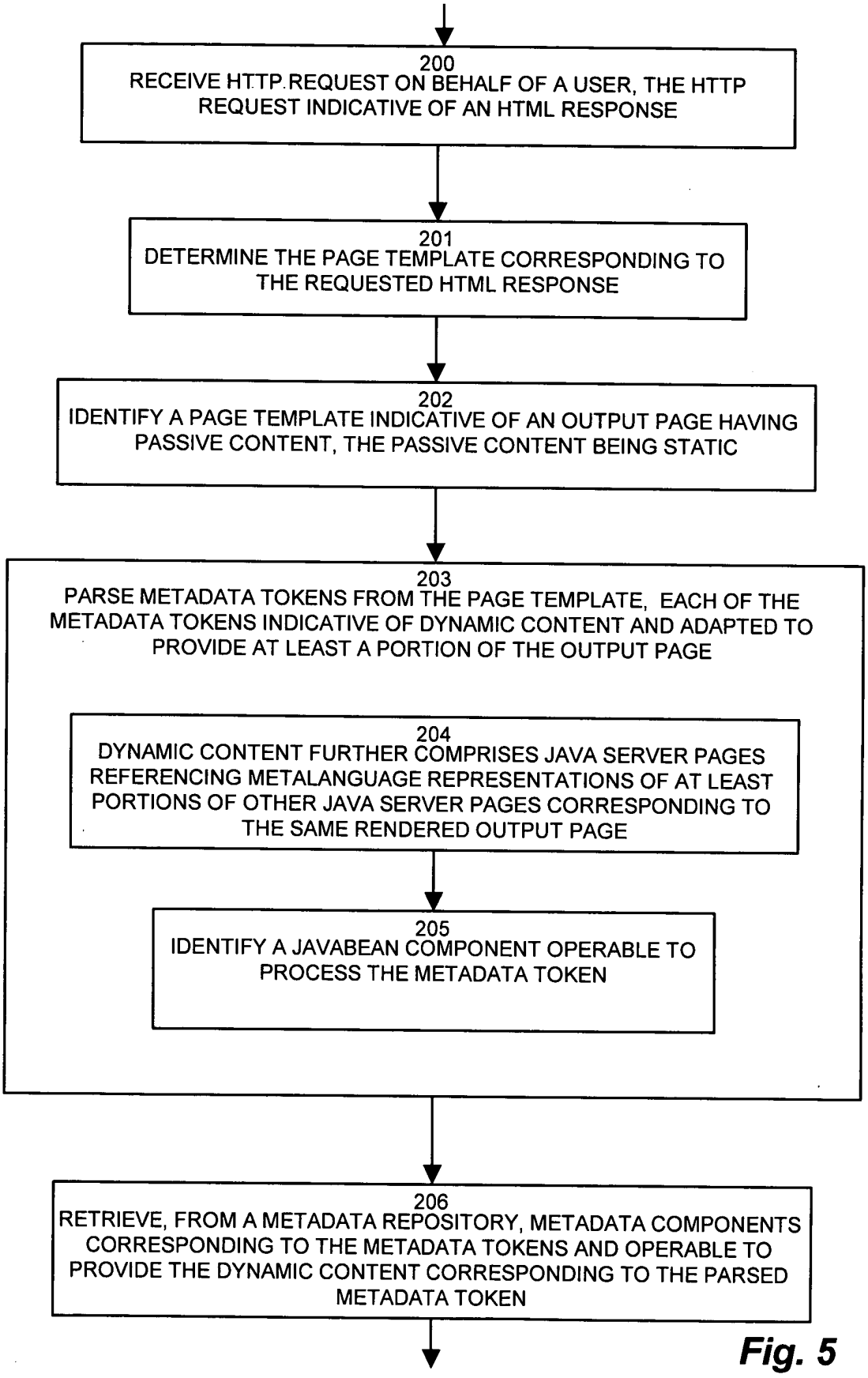
200
RECEIVE HTTP REQUEST ON BEHALF OF A USER, THE HTTP REQUEST INDICATIVE OF AN HTML RESPONSE
201
DETERMINE THE PAGE TEMPLATE CORRESPONDING TO THE REQUESTED HTML RESPONSE
202
IDENTIFY A PAGE TEMPLATE INDICATIVE OF AN OUTPUT PAGE HAVING PASSIVE CONTENT, THE PASSIVE CONTENT BEING STATIC
203
PARSE METADATA TOKENS FROM THE PAGE TEMPLATE, EACH OF THE METADATA TOKENS INDICATIVE OF DYNAMIC CONTENT AND ADAPTED TO PROVIDE AT LEAST A PORTION OF THE OUTPUT PAGE
204
DYNAMIC CONTENT FURTHER COMPRISES JAVA SERVER PAGES REFERENCING METALANGUAGE REPRESENTATIONS OF AT LEAST PORTIONS OF OTHER JAVA SERVER PAGES CORRESPONDING TO THE SAME RENDERED OUTPUT PAGE
205
IDENTIFY A JAVABEAN COMPONENT OPERABLE TO PROCESS THE METADATA TOKEN
206
RETRIEVE, FROM A METADATA REPOSITORY, METADATA COMPONENTS CORRESPONDING TO THE METADATA TOKENS AND OPERABLE TO PROVIDE THE DYNAMIC CONTENT CORRESPONDING TO THE PARSED METADATA TOKEN

Fig. 5

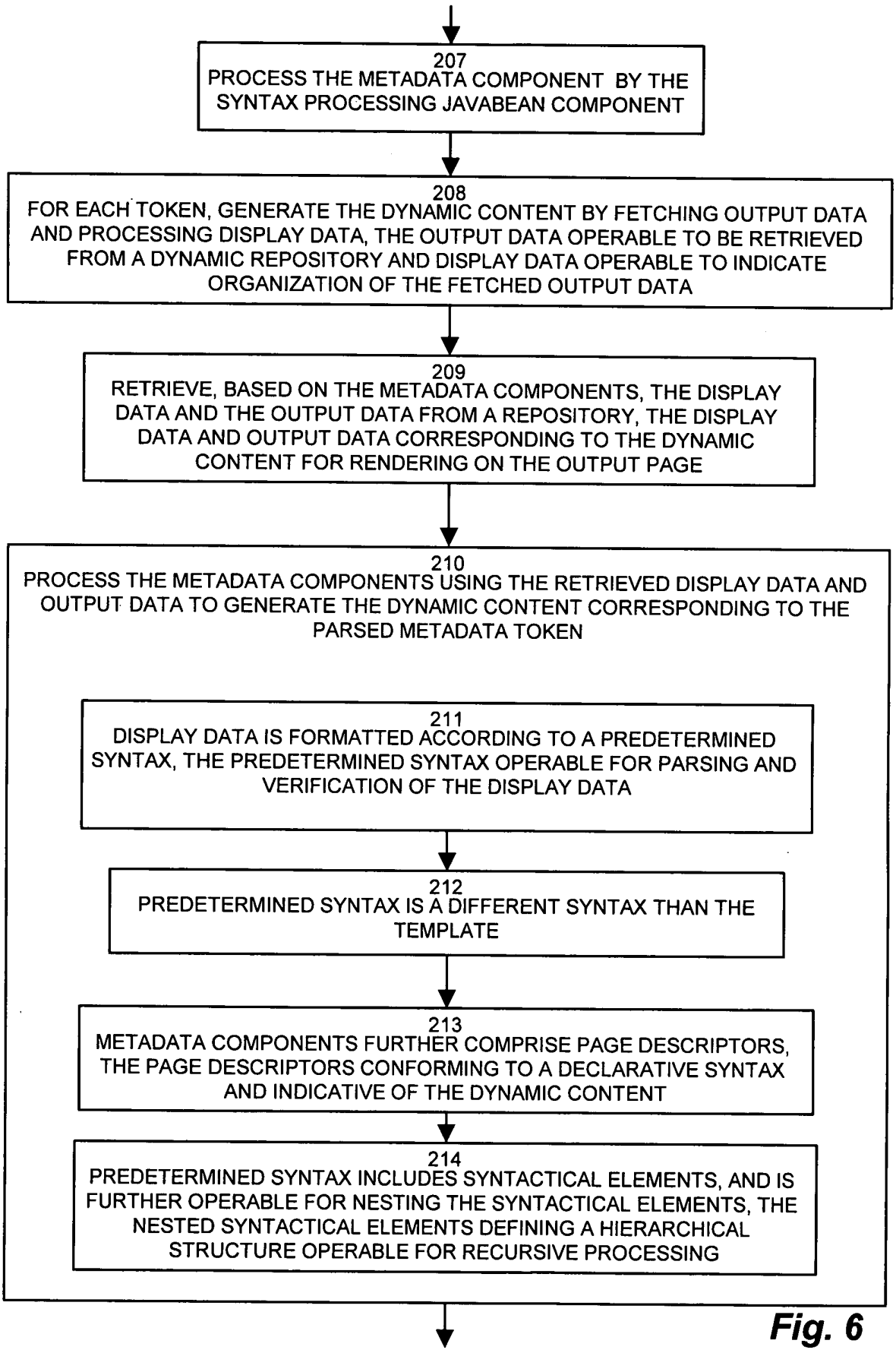
207
PROCESS THE METADATA COMPONENT BY THE SYNTAX PROCESSING JAVABEAN COMPONENT
208
FOR EACH TOKEN, GENERATE THE DYNAMIC CONTENT BY FETCHING OUTPUT DATA AND PROCESSING DISPLAY DATA, THE OUTPUT DATA OPERABLE TO BE RETRIEVED FROM A DYNAMIC REPOSITORY AND DISPLAY DATA OPERABLE TO INDICATE ORGANIZATION OF THE FETCHED OUTPUT DATA
209
RETRIEVE, BASED ON THE METADATA COMPONENTS, THE DISPLAY DATA AND THE OUTPUT DATA FROM A REPOSITORY, THE DISPLAY DATA AND OUTPUT DATA CORRESPONDING TO THE DYNAMIC CONTENT FOR RENDERING ON THE OUTPUT PAGE
210
PROCESS THE METADATA COMPONENTS USING THE RETRIEVED DISPLAY DATA AND OUTPUT DATA TO GENERATE THE DYNAMIC CONTENT CORRESPONDING TO THE PARSED METADATA TOKEN
211
DISPLAY DATA IS FORMATTED ACCORDING TO A PREDETERMINED SYNTAX, THE PREDETERMINED SYNTAX OPERABLE FOR PARSING AND VERIFICATION OF THE DISPLAY DATA
212
PREDETERMINED SYNTAX IS A DIFFERENT SYNTAX THAN THE TEMPLATE
213
METADATA COMPONENTS FURTHER COMPRISE PAGE DESCRIPTORS, THE PAGE DESCRIPTORS CONFORMING TO A DECLARATIVE SYNTAX AND INDICATIVE OF THE DYNAMIC CONTENT
214
PREDETERMINED SYNTAX INCLUDES SYNTACTICAL ELEMENTS, AND IS FURTHER OPERABLE FOR NESTING THE SYNTACTICAL ELEMENTS, THE NESTED SYNTACTICAL ELEMENTS DEFINING A HIERARCHICAL STRUCTURE OPERABLE FOR RECURSIVE PROCESSING

Fig. 6

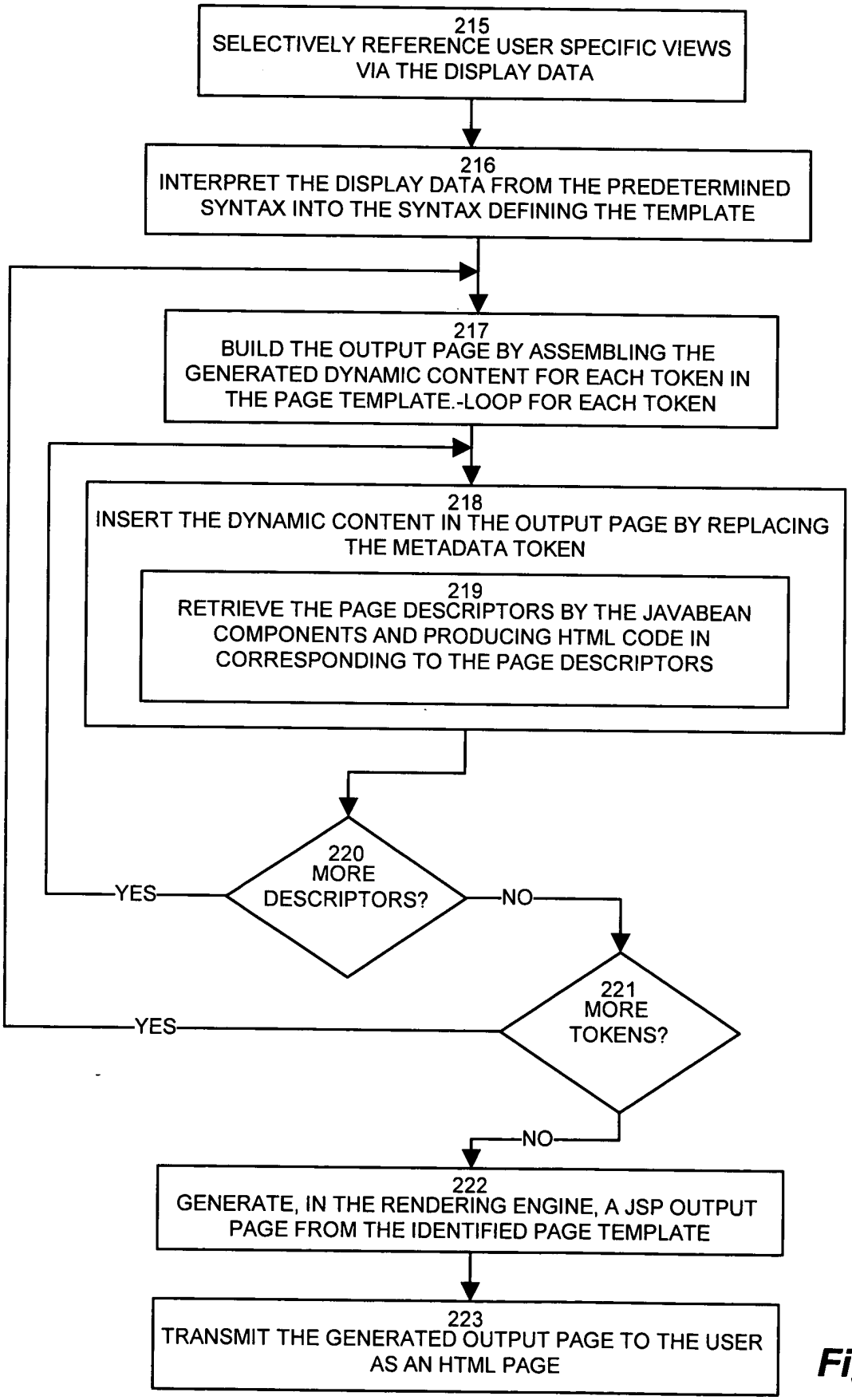
215
SELECTIVELY REFERENCE USER SPECIFIC VIEWS VIA THE DISPLAY DATA
216
INTERPRET THE DISPLAY DATA FROM THE PREDETERMINED SYNTAX INTO THE SYNTAX DEFINING THE TEMPLATE
217
BUILD THE OUTPUT PAGE BY ASSEMBLING THE GENERATED DYNAMIC CONTENT FOR EACH TOKEN IN THE PAGE TEMPLATE.-LOOP FOR EACH TOKEN
218
INSERT THE DYNAMIC CONTENT IN THE OUTPUT PAGE BY REPLACING THE METADATA TOKEN
219
RETRIEVE THE PAGE DESCRIPTORS BY THE JAVABEAN COMPONENTS AND PRODUCING HTML CODE IN CORRESPONDING TO THE PAGE DESCRIPTORS
220
MORE DESCRIPTORS?
YES
NO
221
MORE TOKENS?
YES
NO
222
GENERATE, IN THE RENDERING ENGINE, A JSP OUTPUT PAGE FROM THE IDENTIFIED PAGE TEMPLATE
223
TRANSMIT THE GENERATED OUTPUT PAGE TO THE USER AS AN HTML PAGE

Fig. 7

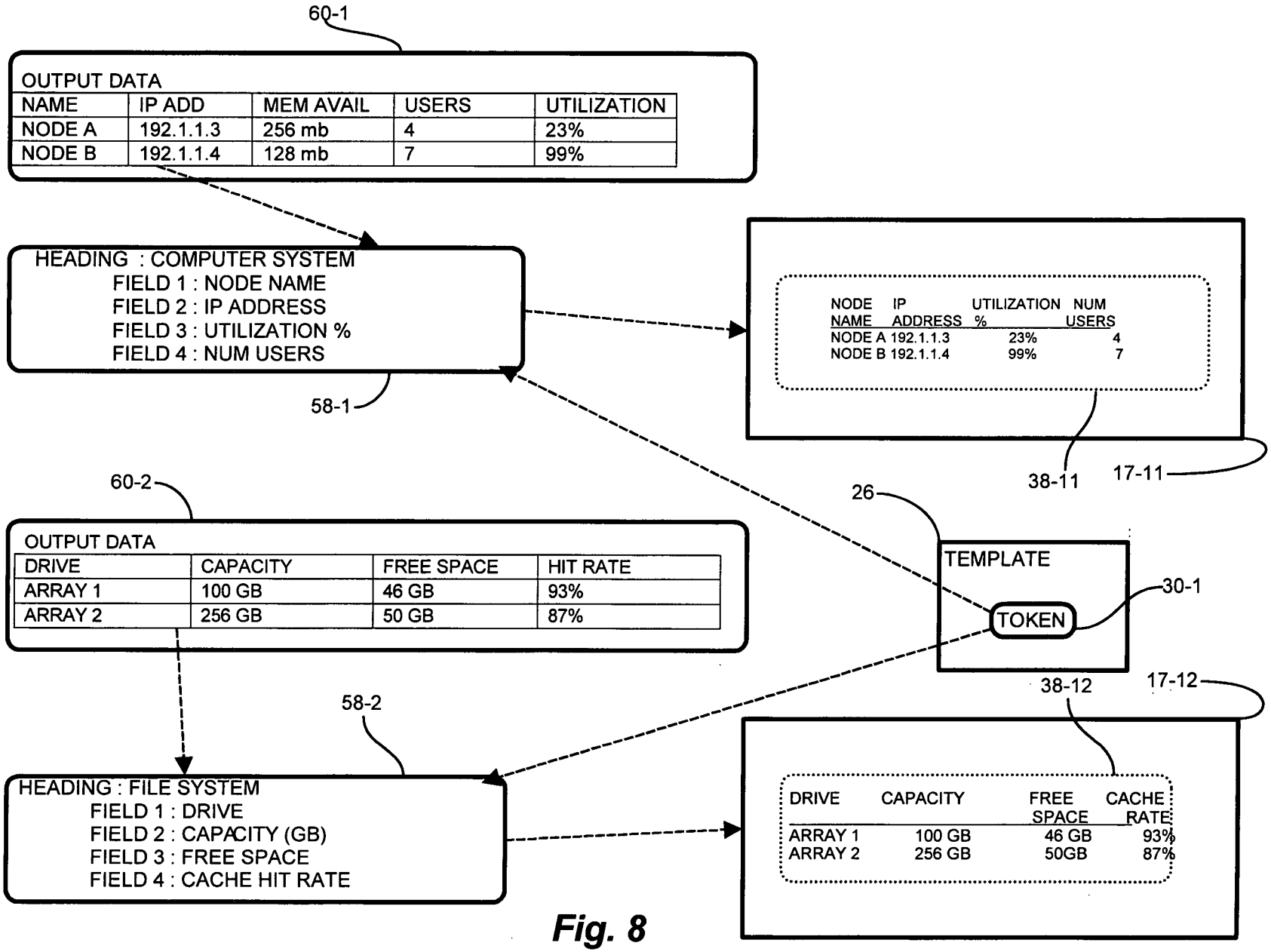
60-1
OUTPUT DATA
NAME | IP ADD | MEM AVAIL | USERS | UTILIZATION
NODE A | 192.1.1.3 | 256 mb | 4 | 23%
NODE B | 192.1.1.4 | 128 mb | 7 | 99%
HEADING : COMPUTER SYSTEM
FIELD 1 : NODE NAME
FIELD 2 : IP ADDRESS
FIELD 3 : UTILIZATION %
FIELD 4 : NUM USERS
58-1
NODE NAME | IP ADDRESS | UTILIZATION % | NUM USERS
NODE A 192.1.1.3 23% 4
NODE B 192.1.1.4 99% 7
38-11
17-11
60-2
OUTPUT DATA
DRIVE | CAPACITY | FREE SPACE | HIT RATE
ARRAY 1 | 100 GB | 46 GB | 93%
ARRAY 2 | 256 GB | 50 GB | 87%
26
TEMPLATE
TOKEN
30-1
38-12
17-12
58-2
HEADING : FILE SYSTEM
FIELD 1 : DRIVE
FIELD 2 : CAPACITY (GB)
FIELD 3 : FREE SPACE
FIELD 4 : CACHE HIT RATE
DRIVE | CAPACITY | FREE SPACE | CACHE RATE
ARRAY 1 | 100 GB | 46 GB | 93%
ARRAY 2 | 256 GB | 50GB | 87%

Fig. 8

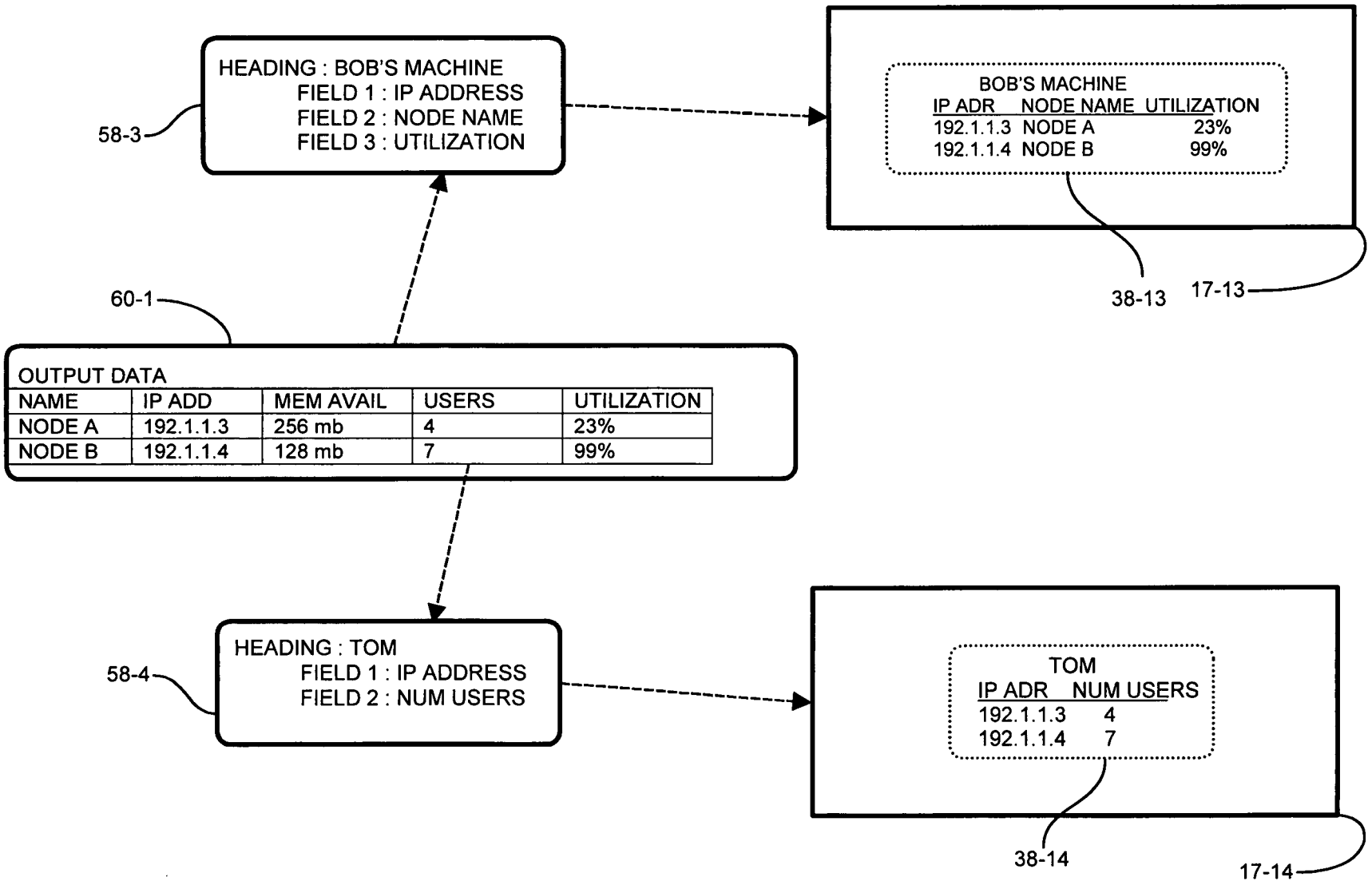
HEADING : BOB'S MACHINE
FIELD 1 : IP ADDRESS
FIELD 2 : NODE NAME
FIELD 3 : UTILIZATION
58-3
BOB'S MACHINE
IP ADR NODE NAME UTILIZATION
192.1.1.3 NODE A 23%
192.1.1.4 NODE B 99%
38-13
17-13
60-1
OUTPUT DATA
NAME | IP ADD | MEM AVAIL | USERS | UTILIZATION
NODE A | 192.1.1.3 | 256 mb | 4 | 23%
NODE B | 192.1.1.4 | 128 mb | 7 | 99%
HEADING : TOM
FIELD 1 : IP ADDRESS
FIELD 2 : NUM USERS
58-4
TOM
IP ADR NUM USERS
192.1.1.3 4
192.1.1.4 7
38-14
17-14

Fig. 9